Claims

1. A pharmaceutical composition comprising a CG7956, aralar1, how, CG9373, cpo, Jafrac1, or CG14440 nucleic acid molecule or a polypeptide encoded thereby and/or a functional fragment thereof or an effector/modulator of said nucleic acid molecule and/or a polypeptide encoded thereby, preferably together with pharmaceutically acceptable carriers, diluents and/or additives.

2. The composition of claim 1, wherein the nucleic acid molecule is a vertebrate or insect CG7956, aralar1, how, CG9373, cpo, Jafrac1, or CG14440 nucleic acid, particulary encoding a human protein as described in Table 1, and/or a nucleic molecule which is complementary thereto, or a functional fragment thereof or a variant thereof.

3. The composition of claim 1 or 2, wherein said nucleic acid molecule is selected from the group consisting of

   (a) a nucleic acid molecule encoding a polypeptide as shown in Table 1;

   (b) a nucleic acid molecule which comprises or is the nucleic acid molecule as shown in Table 1;

   (c) a nucleic acid molecule degenerate as a result of the genetic code to the nucleic acid sequences as defined (a) or (b);

   (d) a nucleic acid molecule that hybridizes at 50°C in a solution containing 1 x SSC and 0.1% SDS to a nucleic acid molecule as defined in claim 2 and/or a nucleic acid molecule which is complementary thereto;

   (e) a nucleic acid molecule that encodes a polypeptide which is at least 85%, preferably at least 90%, more preferably at least 95%, more preferably at least 98% and up to 99,6%

identical to a human protein as described in Table 1 or as defined in claim 2; and

(f) a nucleic acid molecule that differs from the nucleic acid molecule of (a) to (e) by mutation and wherein said mutation causes an alteration, deletion, duplication or premature stop in the encoded polypeptide.

4. The composition of any one of claims 1-3, wherein the nucleic acid molecule is a DNA molecule, particularly a cDNA or a genomic DNA.

5. The composition of any one of claims 1-4, wherein said nucleic acid encodes a polypeptide contributing to regulating the energy homeostasis and/or the metabolism of triglycerides.

6. The composition of any one of claims 1-5, wherein said nucleic acid molecule is a recombinant nucleic acid molecule.

7. The composition of any one of claims 1-6, wherein the nucleic acid molecule is a vector, particularly an expression vector.

8. The composition of any one of claims 1-5, wherein the polypeptide is a recombinant polypeptide.

9. The composition of claim 8, wherein said recombinant polypeptide is a fusion polypeptide.

10. The composition of any one of claims 1-7, wherein said nucleic acid molecule is selected from hybridization probes, primers and anti-sense oligonucleotides.

11. The composition of any one of claims 1-10 which is a diagnostic composition.

12. The composition of any one of claims 1-10 which is a therapeutic composition.

13. The composition of any one of claims 1-12 for the manufacture of an agent for detecting and/or verifying, for the treatment, alleviation and/or prevention of metabolic diseases or dysfunctions, including metabolic syndrome, obesity, and/or diabetes, as well as related disorders such as eating disorder, cachexia, hypertension, coronary heart disease, hypercholesterolemia, dyslipidemia, osteoarthritis, or gallstones, in cells, cell masses, organs and/or subjects.

14. Use of a CG7956, aralar1, how, CG9373, cpo, Jafrac1, or CG14440 nucleic acid molecule, particularly of a nucleic acid molecule according to claim 3 (a), (b) or (c), or a polypeptide encoded thereby or a functional fragment or a variant of said nucleic acid molecule or said polypeptide and/or an effector/modulator of said nucleic or polypeptide for the manufacture of a medicament for the treatment of obesity, diabetes, and/or metabolic syndrome for controlling the function of a gene and/or a gene product which is influenced and/or modified by a CG7956, aralar1, how, CG9373, cpo, Jafrac1, or CG14440 polypeptide, particularly by a polypeptide according to claim 3.

15. Use of a CG7956, aralar1, how, CG9373, cpo, Jafrac1, or CG14440 nucleic acid molecule, particularly of a nucleic acid molecule according to claim 3(a), (b) or (c), or a polypeptide encoded thereby or a functional fragment or a variant of said nucleic acid molecule or said polypeptide or use of an effector/modulator of said nucleic acid molecule or said polypeptide for identifying substances in vitro capable of interacting with a CG7956, aralar1, how, CG9373, cpo, Jafrac1, or CG14440 polypeptide, particularly with a polypeptide according to claim 3.

16. A non-human transgenic animal exhibiting a modified expression of a CG7956, aralar1, how, CG9373, cpo, Jafrac1, or CG14440 polypeptide, particularly of a polypeptide according to claim 3.

17. The animal of claim 16, wherein the expression of the CG7956, aralar1, how, CG9373, cpo, Jafrac1, or CG14440 polypeptide, particularly of a polypeptide according to claim 3, is increased and/or reduced.

18. A recombinant host cell exhibiting a modified expression of a CG7956, aralar1, how, CG9373, cpo, Jafrac1, or CG14440 polypeptide, particularly of a polypeptide according to claim 3.

19. The cell of claim 18 which is a human cell.

20. A method of identifying a (poly)peptide involved in the regulation of energy homeostasis and/or metabolism of triglycerides in a mammal comprising the steps of

(a) contacting a collection of (poly)peptides with a CG7956, aralar1, how, CG9373, cpo, Jafrac1, or CG14440 polypeptide, particularly of a polypeptide according to claim 3, or a functional fragment thereof under conditions that allow binding of said (poly)peptides;

(b) removing (poly)peptides which do not bind and

(c) identifying (poly)peptides that bind to said polypeptide.

21. A method of screening for an agent which modulates/effects the interaction of a CG7956, aralar1, how, CG9373, cpo, Jafrac1, or CG14440 polypeptide, particularly of a polypeptide according to claim 3, with a binding target, comprising the steps of

(a) incubating a mixture comprising

(aa) a CG7956, aralar1, how, CG9373, cpo, Jafrac1, or CG14440 polypeptide, particularly of a polypeptide according to claim 3, or a functional fragment thereof;

(ab) a binding target/agent of said polypeptide or functional fragment thereof; and

(ac) a candidate agent

under conditions whereby said polypeptide or functional fragment thereof specifically binds to said binding target/agent at a reference affinity;

(b) detecting the binding affinity of said polypeptide or functional fragment thereof to said binding target to determine an affinity for the agent; and

(c) determining a difference between affinity for the agent and the reference affinity.

22. A method for screening for an agent, which modulates/effects the activity of a CG7956, aralar1, how, CG9373, cpo, Jafrac1, or CG14440 polypeptide, particularly of a polypeptide according to claim 3, comprising the steps of

(a) incubating a mixture comprising

(aa) said polypeptide or a functional fragment thereof and

(ab) a candidate agent

under conditions whereby said polypeptide or functional fragment thereof has a reference activity;

(b) detecting the activity of said polypeptide or functional fragment thereof to determine an activity in the presence of the agent; and

(c) determining a difference between the activity in the presence of the agent and the reference activity.

23. A method of producing a composition comprising the (poly)peptide identified by the method of claim 20 or the agent identified by the method of claim 21 or 22 with a pharmaceutically acceptable carrier, diluent and/or additive.

24. The method of claim 23 wherein said composition is a pharmaceutical composition for preventing, alleviating or treating of metabolic diseases or dysfunctions, including metabolic syndrome, obesity, and/or diabetes, as well as related disorders such as eating disorder, cachexia, hypertension, coronary heart disease, hypercholesterolemia, dyslipidemia, osteoarthritis, or gallstones.

25. Use of a (poly)peptide as identified by the method of claim 20 or of an agent as identified by the method of claim 21 or 22 for the preparation of a pharmaceutical composition for the treatment, alleviation and/or prevention of metabolic diseases or dysfunctions, including metabolic syndrome, obesity, and/or diabetes, as well as related disorders such as eating disorder, cachexia, hypertension, coronary heart disease, hypercholesterolemia, dyslipidemia, osteoarthritis, or gallstones.

26. Use of a nucleic acid molecule as defined in any of claims 1-6 or 10 for the preparation of a medicament for the treatment, alleviation and/or prevention of metabolic diseases or dysfunctions, including obesity, diabetes, and/or metabolic syndrome, as well as related disorders such as eating disorder, cachexia, hypertension, coronary heart disease, hypercholesterolemia, dyslipidemia, osteoarthritis, or gallstones.

27. Use of a polypeptide as defined in any one of claims 1 to 6, 8 or 9 for the preparation of a medicament for the treatment, alleviation and/or prevention of metabolic diseases or dysfunctions, including

obesity, diabetes, and/or metabolic syndrome, as well as related disorders such as eating disorder, cachexia, hypertension, coronary heart disease, hypercholesterolemia, dyslipidemia, osteoarthritis, or gallstones.

28. Use of a vector as defined in claim 7 or the preparation of a medicament for the treatment, alleviation and/or prevention of metabolic diseases or dysfunctions, including obesity, diabetes, and/or metabolic syndrome, as well as related disorders such as eating disorder, cachexia, hypertension, coronary heart disease, hypercholesterolemia, dyslipidemia, osteoarthritis, or gallstones.

29. Use of a host cell as defined in claim 18 or 19 for the preparation of a medicament for the treatment, alleviation and/or prevention of metabolic diseases or dysfunctions, including obesity, diabetes, and/or metabolic syndrome, as well as related disorders such as eating disorder, cachexia, hypertension, coronary heart disease, hypercholesterolemia, dyslipidemia, osteoarthritis, or gallstones.

30. Use of a CG7956, aralar1, how, CG9373, cpo, Jafrac1, or CG14440 nucleic acid molecule or of a functional fragment thereof for the production of a non-human transgenic animal which over- or under-expresses the CG7956, aralar1, how, CG9373, cpo, Jafrac1, or CG14440 gene product.

31. Kit comprising at least one of

(a) a CG7956, aralar1, how, CG9373, cpo, Jafrac1, or CG14440 nucleic acid molecule or a functional fragment thereof;

(b) a CG7956, aralar1, how, CG9373, cpo, Jafrac1, or CG14440 amino acid molecule or a functional fragment thereof;

(c) a vector comprising the nucleic acid of (a);

(d) a host cell comprising the nucleic acid of (a) or the vector of (c);

(e) a polypeptide encoded by the nucleic acid of (a);

(f) a fusion polypeptide encoded by the nucleic acid of (a);

(g) an antibody, an aptamer or another effector / modulator against the nucleic acid of (a) or the polypeptide of (b), (e) or (f) and

(h) an anti-sense oligonucleotide of the nucleic acid of (a).